Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of		
Use of the 5.850-5.925 GHz Band	)	ET Docket No. 19-138

PETITION FOR RECONSIDERATION OF AREDN

The Amateur Radio Emergency Data Network (AREDN)

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SUMMARY

The Amateur Radio Emergency Data Network (AREDN), through counsel, respectfully petitions the FCC for reconsideration of the Order.[1] The Order exceeds the FCC's authority.

The Order interferes with the Intelligent Transportation Systems (ITS) Program. The Order: (1) requires FCC licensees to disobey rules of the U.S. Department of Transportation that have the force of law; (2) usurps the Secretary of Transportation's statutory authority to set ITS and motor vehicle safety standards; and (3) disrupts the statutory National Architecture.

This exceeds the Commission's rulemaking authority. Sections 303(f) and (r) authorize the FCC to promulgate rules that are "not inconsistent with law."[2] Because it is inconsistent with transportation law, the Order falls outside delegated rulemaking authority and is unenforceable.

Section 5206(f) of the ITS Act of 1998,[3] when properly construed, also precludes the FCC from issuing the Order. This is a separate instance of exceeding statutory limitation.

Finally, the Order is arbitrary and capricious because it fails to consider an important aspect of the problem: the 5.9 GHz Band is not needed for Wi-Fi. The Order does not address AREDN's showings that inflated assumptions led to inflated projections of spectrum need.

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[1] *In the Matter of Use of the 5.850-5.925 GHz Band*, First Report and Order, Further Notice of Proposed Rulemaking and Order of Proposed Modification, ET Docket No. 19-138 (Nov. 20, 2020), Erratum (Dec. 11, 2020), Second Erratum (Feb. 9, 2021) (the "Order"). The Order was summarized in the Federal Register, 86 Fed. Reg. 23281 (May 3, 2021).

[2] 47 U.S.C. §§ 303(f), (r).

[3] Transportation Equity Act for the 21st Century § 5206(f), 112 Stat. 107, 457 (1998) (TEA 21). Section 5201 of TEA 21 provides that Subtitle C of TEA 21 may be cited as the Intelligent Transportation Systems Act of 1998 (hereinafter, the "ITS Act of 1998").

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PETITION FOR RECONSIDERATION

Amateur Radio Emergency Data Network (AREDN), through counsel, respectfully petitions for reconsideration of the Order.[1] AREDN requests that the Order be withdrawn and this proceeding be terminated.[2]

I. INTRODUCTION

a. This docket

The Commission opened this docket in November 2019, and the next month issued a Notice of Proposed Rulemaking (NPRM).[3] The NPRM proposed to split the 5.850-5.925 GHz Band (5.9 GHz Band) into two sub-bands, with the lower 45 megahertz allocated to unlicensed use and the upper 30 megahertz devoted to intelligent transportation systems (ITS).[4] The NPRM further proposed that the upper 30 megahertz be allocated either (1) 20 megahertz for the cellular

[1] *In the Matter of Use of the 5.850-5.925 GHz Band*, First Report and Order, Further Notice of Proposed Rulemaking and Order of Proposed Modification, ET Docket No. 19-138 (Nov. 20, 2020), Erratum (Dec. 11, 2020), Second Erratum (Feb. 9, 2021) (collectively, the "Order"). The Order was summarized in the Federal Register, 86 Fed. Reg. 23281 (May 3, 2021).
[2] Other than a brief discussion about interference from unlicensed operations at paras. 92-93, the Order did not address the Comments of AREDN (Feb. 7, 2020), Reply Comments of AREDN (Apr. 27, 2020), or the Letter from Julian Gehman, counsel to AREDN, to Marlene Dortch, Secretary, FCC (Sep. 23, 2020) (hereinafter, the "AREDN *ex parte* letter").
[3] *In the Matter of Use of the 5.850 – 5.925 MHz Band,* Notice of Proposed Rulemaking, ET Docket No. 19-138 (rel. Dec. 17, 2019) (the "NPRM").
[4] NPRM para. 11.

vehicle-to-everything (C-V2X) standard and 10 megahertz for the dedicated short-range communication (DSRC) standard or, alternatively, (2) all 30 megahertz for C-V2X exclusively.[5]

Over 300 comments completely opposed the NPRM's proposal.[6] These were composed of 151 regular comments, that were submitted by uploading a written document, and another 152 express comments, that were submitted by typing directly into the Commission's website. This only counts the comments that were submitted by the filing deadline. Many more came in later in opposition that are not reflected here.

A middle group of about ten comments, mostly OEM members of the 5G Automotive Association, supported in part and opposed in part. This group urged that the 5.9 GHz Band be devoted exclusively to C-V2X and opposed introduction of unlicensed operation (Wi-Fi).

Contra to this was a group of about 17 comments urging the Commission to grant the NPRM *en toto*. This group supported unlicensed use (mainly Wi-Fi) in the lower 45 megahertz. Of the 17 comments fully supporting the NPRM, seven represented commenters with business or personal interests in the outcome of this proceeding, mostly big tech companies and large cable TV providers. The remaining ten comments that fully supported the NPRM were submitted by "free market" or "public interest" advocacy and research shops, with undisclosed funding sources.

Finally, six comments did not give an up-or-down vote on the NPRM but instead made more nuanced remarks or voiced individual concerns. The Reply Comments of AREDN, at 1-3 and Exhibit A, identify the commenters in each of these groups.

[5] NPRM para. 28.
[6] Reply Comments of AREDN 1-3 and Exh. A (listing commenters).

The Order reallocates the lower 45 megahertz to unlicensed use while continuing the upper 30 megahertz for ITS use.[7] The Order eliminates DSRC and requires the C-V2X standard, exclusively, in the ITS band, at the end of a one-year transition period.[8]

b. The Intelligent Transportation Systems Program

The U.S. Department of Transportation (DOT) administers the Intelligent Transportation Systems (ITS) Program. Statutes require the Secretary of Transportation (Secretary) to perform certain ITS duties, including: to develop and submit to Congress the National ITS Program Plan;[9] to develop and maintain and the National ITS Architecture and supporting standards and protocols,[10] and; to ensure that ITS projects using amounts from the Highway Trust Fund conform to the standards and protocols of the National Architecture and regional architectures.[11]

DOT implemented this with 23 C.F.R. Part 940, which has the force of law.[12] Rule Section 940.9 requires the development of regional architectures under the National Architecture.[13] Sections 940.5 and 940.11 require ITS projects using Highway Trust Fund monies to conform to regional architecture.[14] Most ITS projects receive some funding from the

[7] Order para. 1.
[8] *Id.*
[9] 23 U.S.C. § 512 (bi-annual update and submission to Congress).
[10] 23 U.S.C. § 517(a)(1).
[11] 23 U.S.C. § 517(d)(1).
[12] Three things together give Part 940 the force of law: (1) Congress delegated rulemaking authority to DOT, 49 U.S.C. § 322(a); (2) Part 940 was issued in a notice-and-comment rulemaking, United States, Department of Transportation, Federal Highway Administration, "Intelligent Transportation System Architecture and Standards," Final Rule 66 Fed. Reg. 1446 (Jan. 8, 2001), Notice of Proposed Rulemaking 65 Fed. Reg. 33994 (May 25, 2000); and (3) Violation of Part 940 can be prosecuted criminally, 49 U.S.C. § 507(b) (Attorney General shall, on request of the Secretary, bring court proceeding to prosecute person violating a regulation of the Secretary).
[13] 23 C.F.R. § 940.9.
[14] 23 C.F.R. §§ 940.5, 940.11(a), (c)(1).

Highway Trust Fund, subjecting them to Part 940's requirement to conform to regional architecture. Finally, Congress has appropriated annual funding for the ITS Program.[15]

II. ARGUMENT

1. Legal Standard: the FCC May Not Act in a Manner That Is Inconsistent With What Congress Enacted

Congress has not instructed the FCC to re-allocate the 5 GHz Band. Consequently, the Commission must rely on its ordinary authorities under the Administrative Procedure Act (the "APA")[16] and the Communications Act of 1934, as amended (the "Act").[17] Under the APA, the FCC may proceed by adjudication or rulemaking.[18] The Order is a rule, promulgated pursuant to the APA, 5 U.S.C. § 553 and, ostensibly, Section 303 of the Act, discussed below.

The Order did not respond to AREDN's showings in Comments and Reply Comments that adoption of the proposed rules would fall outside delegated authority. The Order is vague as to the specific authority under which the action is taken. The Order references the "broad authority" that "the Communications Act gives the Commission."[19] However, invocation of a catchphrase ("broad authority") is not descriptive as to what specific authority is being relied on. Use of this phrase, without more, suggests that the Commission simply assumes that it has authority and has not articulated the specific authority on which it can rely. Similarly, the Order cites to Section 303 of the Act,[20] but does not identify which part of Section 303 purportedly applies here. The next section of this brief reviews the pertinent parts of Section 303.

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[15] *See* Reply Comments of AREDN at Exhibit B, for chronology of transportation statutes and ITS appropriations.
[16] 5 U.S.C. Subchapter II.
[17] 47 U.S.C. §§ 151, *et seq.*
[18] 5 U.S.C. §§ 553, 554.
[19] Order para. 123.
[20] Order n330 (citing 47 U.S.C. § 303).

a. Section 303

Sections 303(f) and (r) authorize the FCC to make rules "not inconsistent with law" as may be necessary to "carry out the provisions of this chapter."[21] The FCC may not issue a rule unless the rule is "not inconsistent with law."[22] The plain words of the statute control, and it is helpful to have in mind the definitions of these words. "Inconsistent" is defined as "mutually repugnant or contradictory; contrary, the one to the other, so that both cannot stand, but the acceptance or establishment of the one implies the abrogation or abandonment of the other."[23] The word "law" has been defined as follows: "In U.S. law, the word "law" refers to any rule that if broken subjects a party to criminal punishment or civil liability."[24] As shown below, certain DOT rules, violation of which can be prosecuted criminally, have the force of law.

The "not inconsistent with law" requirement appears in a variety of statutes. There are important reasons for this, including consistent application of the law and primacy of the legislature. Congress' judgment and policy-making are superior to those of the FCC, even where the FCC is allocating spectrum.[25] The Commission's ancillary authority, Section 4(i), 47 U.S.C. § 154(i), authorizes the FCC to make rules "not inconsistent with this chapter." But, "this

[21] 47 U.S.C. §§ 303(f), (r). AREDN discussed "not inconsistent with law" at Reply Comments of AREDN 12-13 and AREDN *ex parte* letter 5-6.
[22] *Bowen v. Georgetown Univ. Hosp.,* 488 U.S. 204, 208 (1988) ("[i]t is axiomatic that an administrative agency's power to promulgate legislative regulations is limited to the authority delegated by Congress"). AREDN *ex parte* letter 5-6.
[23] AREDN *ex parte* letter 6 (citing Black's Law Dictionary).
[24] https://legal-dictionary.thefreedictionary.com/law.
[25] *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001) (agency "is a creature of statute. It has no constitutional or common law existence or authority but only those authorities conferred upon it by Congress"), *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 (1986).

chapter" includes Sections 303(f) and (r). As the Supreme Court held, the FCC must issue rules that are not inconsistent with law, even when using ancillary authority.[26]

The FCC apparently believes that its "broad authority" is independent of the Secretary's ITS duties. If so, that would be a mistaken assumption. An FCC rule must be "not inconsistent with law," including transportation law. The FCC's rulemaking authority, to issue the Order, depends on what transportation law says, so that the FCC rule is not inconsistent with this law.

The FCC may also believe that it has "broad authority," under Sections 303(a), (b) and (c) of the Act, to allocate spectrum and set radio service rules.[27] However, these authorities do not exist in the abstract, nor can they be enforced individually. The Commission's spectrum allocation and service rule decisions must take tangible form as rulemaking or adjudication. The Order is a rulemaking. Therefore, spectrum allocation authority of Section 303(c) must fit within the constraints of rulemaking authority of Section 303(r), like water poured into a bottle fits the contours of the bottle. Rulemaking authority delegated to the FCC in the Communications Act requires that the Order be not inconsistent with transportation law.

b. *Brown & Williamson*

In *FDA v. Brown & Williamson Tobacco Corp*,[28] the Supreme Court struck down the attempted foray of the Food and Drug Administration (FDA) into regulation of tobacco products. The Supreme Court did so, in part, because Congress had established a "distinct regulatory

[26] *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968) (FCC exercise of ancillary authority subject to Section 303(r) requirement of "not inconsistent with law").
[27] 47 U.S.C. §§ 303(a), (b), (c).
[28] *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000). AREDN *ex parte* letter n30 (citing *Brown & Williamson*); Letter from Scott D. Delacourt, counsel to the Alliance for Automotive Innovation, to Marlene H. Dortch, Secretary, FCC at 2 (Oct. 30, 2020) (quoting *Brown & Williamson*).

scheme" for tobacco that did not involve FDA.[29] The phrase "distinct regulatory scheme" appears in four separate places in the *Brown & Williamson* opinion.[30] This distinct regulatory scheme evidenced Congress' intent that FDA should not regulate tobacco products, even though FDA asserted jurisdiction.[31]

As with tobacco products, Congress established a distinct regulatory scheme for intelligent transportation. Congress requires DOT to develop, report, maintain and enforce the National ITS Program Plan and National ITS Architecture; DOT rules governing the National Architecture and regional architectures have the force of law; and Congress appropriated annual funding to DOT for the ITS Program, a strong expression of Congressional policy.[32] This shows Congress' intent that DOT should regulate ITS. Transportation statutes demonstrate that Congress expected DSRC to continue, along with allocation of the full 5.9 GHz Band.[33] This was reinforced by a letter from a bipartisan group of Members of Congress urging continued allocation.[34] *Brown & Williamson* applies here and teaches that the FCC "may not exercise its

[29] *Brown & Williamson,* 529 U.S. at 144, 155, 157, 159.
[30] *Id.*
[31] *Brown & Williamson*, 529 U.S. at 126
[32] *Supra* nn9-15.
[33] *See* Comments of AREDN 21-24. The Moving Ahead for Progress in the 21st Century Act § 53006, Pub. L. No. 112-141, 126 Stat. 405 (2012) (MAP-21) and Fixing America's Surface Transportation Act § 6009, Pub. L. No. 114-94, 129 Stat. 1312 (2015) (FAST Act) required preparation and submission of a detailed, expert report on the status and gaps to deployment of DSRC. These were codified at 23 U.S.C. § 518. The FAST Act §§ 1113(a)(1)(A)(ii), 1114(1)(F), 1407(a) and 1407(b), made the installation of vehicle-to-infrastructure (V2I) equipment eligible for various funding programs. Congress would not have taken these actions if it agreed to replacement of DSRC or reduction of the 5.9 GHz band allocation.
[34] Letter from Members of the House Committee on Transportation and Infrastructure to Members of the Federal Communications Commission (Jan. 22, 2020).

authority in a manner that is inconsistent with the administrative structure that Congress enacted."[35]

c. Unified legal standard

Section 303 and *Brown & Williamson* say essentially the same thing: FCC action may not be inconsistent with what Congress enacted. Even if otherwise consistent with the Act, a rule would be not authorized under Sections 303(f) and (r) if inconsistent with other laws. Even if otherwise a legitimate exercise of authority, an agency action would violate the holding of *Brown & Williamson* if "inconsistent with the administrative structure that Congress enacted."

2. The Order is Inconsistent With What Congress Enacted and Therefore is Not Authorized

In summary and as detailed below, the Order is inconsistent with transportation law and administrative structure and therefore is not authorized. This makes the Order unenforceable.

a. The Order infringes the ITS Program

The Order denies (at para. 123) that it infringes on the ability of the Secretary to administer the ITS Program. Nevertheless, the Order infringes on the ITS Program three ways.

First, the Order disrupts national and regional architectures. Of the 141 Service Packages in the National Architecture, 81 (or 57%) rely on the 5.9 GHz Band for at least one information flow.[36] The Order would result in loss of most of these Service Packages, due to insufficient spectrum. The ones that remain are sidelined for the foreseeable future, with the DSRC infrastructure outlawed after the transition period.

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[35] *Brown & Williamson, supra* n28, 529 U.S. at 125; *United Life Ins. Co. v. Burwell*, 827 F.3d 70, 73 (D.C. Cir. 2001) ("[d]isagreeing with Congress' expressly codified policy choices isn't a luxury administrative agencies enjoy").

[36] AREDN *ex parte* letter 4-5 (identifying Service Packages that rely on 5.9 GHz Band); email from Steve Sill, ITS Architecture, Standards and Cybersecurity Program Manager, Federal Highway Administration, to Julian Gehman, counsel to AREDN (Sep. 18, 2020).

Second, the Order usurps the Secretary's standard-setting authority. The Order violates Congressional mandates that "the Secretary shall develop and maintain a national ITS architecture and supporting standards and protocols"[37] and "[t]he Secretary of Transportation shall prescribe motor vehicle safety standards."[38] As explained below, *infra* 8-14, the Order dictates to the Secretary what ITS standard, and what wireless motor vehicle safety standard, will be used. The Order usurps the Secretary's discretionary authority to require a nationwide ITS standard,[39] as the Order requires C-V2X nationwide.

Third, the Order requires FCC licensees to violate DOT rules that have the force of law. Licensees must disobey regional architecture to comply with FCC rules, thereby violating 23 C.F.R. Part 940 and 23 U.S.C. § 517.[40]

The next three sections of this brief trace the FCC's ITS rulings from being consistent with law in 1999 to 2004, to issuing the Order, which is inconsistent with law and not authorized.

b. The FCC's precedent in 1999 to 2004 was consistent with law

The purpose of the 5.9 GHz spectrum allocation and DSRC radio service rules was to implement DOT's architecture and standards. Briefly summarized, the chronology is as follows.

In 1999, the FCC issued its Report and Order allocating the 5.9 GHz band to DSRC,[41] and said:

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[37] 23 U.S.C. § 517(a)(1).
[38] 49 U.S.C. § 30111(a).
[39] 23 U.S.C. § 517(b).
[40] For example, the Michigan DOT Regional Architecture calls out the DSRC Standards Group, https://www.michigan.gov/documents/mdot/SEMCOG_Region_ITS_Architecture_Amendment_483006_7.pdf 42 (last viewed Apr. 25, 2021). These standards call for, among other things, seven channels of 10 megahertz each, IEEE 802.11 protocols and DSRC Message Set Dictionary. Michigan DOT would have to abandon the DSRC standards group in order to comply with the Order, in contravention of the regional architecture.
[41] *In the Matter of Amendment of the Commission's Rules Regarding Dedicated Short Range Communications*, WT Docket No. 01-90, *In the Matter of Amendment of Parts 2 and 90 of the*

> We defer consideration of licensing and service rules and channelization plans to a later proceeding because standards addressing such matters are still under development by the Department of Transportation. Once such standards are developed, the Commission will take whatever action is necessary to implement the standards related to DSRC use. Our decisions here will further the goals of the United States ("U.S.") Congress and the Department of Transportation to improve the efficiency of the nation's transportation infrastructure and will facilitate the growth and development of the ITS industry.[42]

In 2002, ITS America (then serving as Federal Advisory Committee to DOT and acting on behalf of DOT) filed a lengthy *ex parte* submission, at the FCC, containing:

- the DOT-sponsored standard (DSRC),
- a band plan (seven channels of 10 megahertz each),
- a licensing approach (including roadside units and onboard units), and
- technical and other rules (including requirement of adherence to the standard).[43]

This *ex parte* submission reflected the work of DOT, ITS America and numerous other members of the standards drafting committee.

In a 2004 rulemaking proceeding, the FCC implemented DOT's proposed band plan, standard and rules as rules for the FCC's DSRC Service.[44] In doing so, the Commission acknowledged the statutory requirement of adherence to the National Architecture.[45] As quoted above, the FCC's action was intended to "further the goals of" Congress and DOT.

Commission's Rules to Allocate the 5.850 – 5.925 GHz band to the Mobile Service for the Dedicated Short Range Communications of Intelligent Transportation Services, Report and Order, ET Docket No. 98-95, RM-9096 (Oct 22, 1999).

[42] Reply Comments of AREDN 37, AREDN *ex parte* letter n26 (quoting *id* at para. 1).

[43] Reply Comments of AREDN 37 (citing *Ex Parte* Comments of the Intelligent Transportation Society of America: Status Report and Recommendations for Licensing and Service Rules for the DSRC Spectrum in the 5850-5925 MHz Band, *In the Matter of Intelligent Transportation Systems Using Dedicated Short Range Communications*, WT Docket No. 01-90 (July 9, 2002)).

[44] Reply Comments of AREDN 38 (citing *In the Matter of Amendment of the Commission's Rules Regarding Dedicated Short-Range Communications Services in the 5.850-5.925 Band (5.9 GHz Band)*, WT Docket No. 01-90, ET Docket No. 98-95, RM-9096, Report and Order (2004)).

[45] *Id.* at para. 7 (quoting Section 5206(a) of TEA-21, codified at 23 U.S.C. § 517(a)).

In summary, in 1999 to 2004, the FCC's actions were consistent with 23 U.S.C. § 517(a)(1), which mandates that DOT set the ITS standards. Consequently, in 1999 to 2004, the FCC's DSRC Service rules were consistent with law and were authorized by Section 303.

c. The Order silently departs from precedent

That was then and this is now. Now, the Order ignores DOT's comments,[46] outlaws DSRC (the incumbent standard previously chosen by DOT), imposes a new standard (C-V2X) over DOT's objection,[47] limits ITS messages, drastically reduces bandwidth and otherwise re-works ITS architecture, standards and protocols. DOT told the FCC that DOT policy was to "[a]llow the market to determine the most appropriate technology for V2X."[48] The Order does the opposite by imposing C-V2X, leaving no room for market choice, and outlawing the incumbent DSRC, which is used by nearly all ITS installations. These measures are forced on to DOT without DOT's request or consent.

The Order does not acknowledge that it is departing from the Commission's deferential policies of 1999 to 2004. The Order does not acknowledge that it is moving from accommodating DOT to snubbing the agency. The Order does not acknowledge that the 5.9 GHz band plan and DSRC standard were developed and presented under the aegis of DOT, and that the FCC implemented DOT's standard, band plan and proposed rules. The FCC's departure from supporting the National Architecture is not explained, where previously the Commission

[46] Letter from The Honorable Elaine Chao, Secretary of Transportation, to Adam Candeub, Acting Assistant Secretary of Commerce, NTIA, 1 (Oct. 15, 2020) ("We are disappointed that the FCC has ignored or rejected DOT's previous comments in this proceeding").
[47] Letter from Steven Bradbury, General Counsel, DOT, to Adam Candeub, Acting Assistant Secretary of Commerce, NTIA, 6-8 (Oct. 8, 2020) (C-V2X is "not fully test-proven").
[48] *Id.* at 4.

acknowledged the statutory requirement of adherence to the National Architecture.[49] The Commission has silently departed from previous policy, violating Supreme Court rulings.[50]

d. The Order contravenes a transportation statute and cannot be enforced

Most important, the Order is inconsistent with 23 U.S.C. § 517, which mandates that "the Secretary shall develop and maintain a national ITS architecture and supporting standards and protocols."[51] The inconsistency is that the FCC is setting the ITS standard instead of the Secretary. Irrespective of whether C-V2X or DSRC is the better standard, Congress gave the FCC no authority to set ITS standards. The Commission's precedent in 1999 to 2004 even more firmly establishes that the FCC has no authority to set ITS standards. The Order abrogates the standard previously chosen by the Secretary (DSRC). The Order deprives the Secretary of the ability to set a particular ITS standard or to follow DOT's stated policy of letting the market determine the technology.[52] This is the dictionary definition of "inconsistent": the acceptance of the FCC's standard requires abandonment of the Secretary's authority to set the standard. Because it is inconsistent with 23 U.S.C. § 517(a), the Order is not authorized by Section 303(f) and (r). The Order falls outside delegated authority, and the FCC is powerless to enforce it.[53]

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[49] *Supra* n45.

[50] *Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (an agency cannot "depart from a prior policy *sub silentio*").

[51] 23 U.S.C. § 517(a)(1). *See also* AREDN *ex parte* letter 5 ("[t]he Secretary, not the FCC, is to maintain and enforce the National Architecture").

[52] A possible rejoinder is that the Secretary is free to set any ITS standard he chooses because the Commission's spectrum reallocation and new DSRC Service rules are unrelated to the National Architecture. However, the Commission's 2004 Report and Order setting the DSRC Service rules shows that this is simply untrue. There, the Commission recognized that DSRC is part of ITS: "DSRC provides the critical communications link for intelligent transportation systems." Report and Order at para. 2, *supra* n45 (citing speech of Jeffrey N. Shane, Under Secretary for Transportation, DOT). The Commission has also acknowledged the statutory requirement of adherence to the National Architecture. *Id.* at para. 5. As discussed above, *supra* 8, the Order disrupts 57% of the Service Packages in the National Architecture.

[53] *Supra* n25.

As discussed above, *supra* 4-6, the FCC may believe that it has broad authority under Sections 303(b) and (c) to allocate spectrum and issue service rules, and that this authority is independent of 23 U.S.C. § 517. However, the Order is the product of a rulemaking. The FCC certainly is authorized to allocate spectrum and set service rules, but the spectrum allocation and service rules must fit within the constraints of rulemaking. They must be not inconsistent with law. This includes being not inconsistent with transportation law.

e. The Order requires licensees to violate transportation rules and statutes

The Order is inconsistent with the National Architecture and regional architectures. In order to comply with FCC rules, state DOTs must abrogate grant commitments and regional architecture, in violation of 23 U.S.C. § 517(d)(1) and 23 C.F.R. Part 940. For example, as noted, *supra* n40, Michigan DOT's regional architecture calls out the DSRC standards group (DSRC messages set sent over seven channels of 10 megahertz each). In order to comply with FCC rules for its license (WQXH871), the State of Michigan would have to discontinue DSRC. This would disobey the regional architecture. In turn, it would violate 23 C.F.R. §§ 940.5 and 940.11, because these rules require conformance to regional architecture. The Order requires FCC licensees to violate DOT rules that have the force of law. Once again, this satisfies the definition of "inconsistent": FCC licensees must abrogate regional architecture and disobey DOT rules that have the force of law in order to satisfy the Order. Therefore, the Order is inconsistent with law.[54]

[54] A possible rejoinder is that DOT should change the architecture to match FCC rules because "the FCC's job is to manage spectrum." However, that generalized job description does not eliminate Section 303's specific requirement that the rule must be not inconsistent with law. Instead of relying on shorthand ("the FCC's job is to manage spectrum, so surely it has authority here"), one should review exactly what authorities were delegated to the FCC.

f. The Order removes Congressionally-mandated environmental measures

The Order further contradicts statutory instruction by effectively limiting ITS to safety.[55] Per Congress' instruction,[56] DOT includes, in the National Architecture, Service Packages that are not directly related to safety but advance other statutory goals such as reduced congestion, fuel conservation, weather alerts, protection of the environment and traveler aid. Although preventing crashes is the most important part of ITS, Congress mandated other goals as well. The Order is inconsistent with 23 U.S.C. §§ 513(c) and 516(b)(1) in limiting ITS messages.

g. The Order makes it impossible for DOT to fulfill Congress' instructions

Query how the Secretary could satisfy 23 U.S.C. § 517(d)(1), requiring DOT to ensure that Highway Trust Fund recipients conform to the regional architecture, or 23 U.S.C. §§ 513(c)(1) and 516, requiring DOT to encourage ITS technologies to improve traffic and other operations that are not safety messages. The Order makes it difficult or impossible for the Secretary to perform these and other statutory duties and, therefore, is inconsistent with law.

h. The Order usurps the Secretary's authority to set a mandatory standard

Congress authorized the Secretary to set a mandatory nationwide ITS standard if the Secretary were to deem it appropriate.[57] Moreover, in 2017, NHTSA proposed to establish a new Federal Motor Vehicle Safety Standard that would mandate vehicle-to-vehicle (V2V) communications for new light vehicles and require the DSRC basic safety message.[58] NHTSA did so under authority of the National Traffic and Motor Vehicle Safety Act, as amended (the

[55] Order para. 35 (30 megahertz for "core vehicle safety-related functions," thereby eliminating other functions).
[56] 23 U.S.C. §§ 513(c), 516(b)(1) (instructing the Secretary to prioritize congestion management, traffic operations, incident management, traveler information).
[57] 23 U.S.C. § 517(b).
[58] United States, Department of Transportation, National Highway Traffic Safety Administration. "Federal Motor Vehicle Safety Standards; V2V Communications, Notice of Proposed Rulemaking." 82 Fed. Reg. 3854 (Jan 12, 2017).

"Safety Act"), 49 U.S.C. §§ 30101, *et seq.*[59] NHTSA could still issue a rule. The Order requires the C-V2X standard for ITS, over the objections of DOT,[60] and outlaws DSRC, which NHTSA proposed to mandate. If NHTSA were to mandate a basic safety message, the FCC has dictated to NHTSA what the standard would be. This is inconsistent with 49 U.S.C. § 30111(a) ("[t]he Secretary of Transportation shall prescribe motor vehicle safety standards") and 23 U.S.C. § 517(b), which authorizes the Secretary to mandate a nationwide ITS standard.

i. The Order violates the major question doctrine

The Order runs afoul of the major question doctrine providing that Congress speaks clearly when it delegates authority to make "decisions of vast economic and political significance."[61] Vehicle crashes is a leading cause of death in the United States. The power to mandate a nationwide ITS standard is a decision of vast significance. Congress clearly said that the Secretary – not the FCC – has that authority.

Similarly, the Order, at para. 32, discusses innovative safety and convenience features that have been introduced outside the 5.9 GHz Band, some of which were helped along by spectrum allocations from the FCC. The Order is correct in implying that these are important and helpful innovations. Nevertheless, in making these observations to justify scuttling the DSRC standard chosen by DOT, the Commission is promulgating transportation policy. Whether to proceed with a top-down, integrated National ITS Architecture, or a bottom-up *ad hoc* policy of disjointed services in discreet spectrum allocations, or both, is a transportation policy choice. Congress specifically instructed the Secretary to develop and maintain the

[59] *Id.* at 82 Fed. Reg. at 3956.
[60] *Supra* n47.
[61] *Utility Air Regulatory Group v. EPA*, 573 U.S. 302, 324 (2014) (EPA decision would expand regulatory authority without clear congressional authorization). *See also* AREDN *ex parte* letter 7-10 (unauthorized expansion of FCC power).

National ITS Architecture. The FCC is not authorized to replace the ITS Architecture with its *ad hoc*, piecemeal approach to intelligent transportation. Courts have invalidated attempts to expand an agency's power into an area that Congress did not envision for that agency.[62]

In summary, the FCC must issue rules that are not inconsistent with law. Because it is inconsistent with statutory provisions and DOT rules having the force of law, the Order is not authorized by Sections 303(f) and (r). The Order also is inconsistent with Congress' regulatory scheme of DOT as traffic safety agency and transportation policy maker and, as such, is "inconsistent with the administrative structure that Congress enacted."[63]

j. The *Teledesic* case and Section 316 do not cure lack of Section 303 authority

The Order quotes the *Teledesic* case, stating that, in managing spectrum, "[t]he Commission correctly conceives of its role in prophetic and managerial terms."[64] However, *Teledesic* does not cure the lack of authority resulting from the Order's breach of the "not inconsistent with law" requirement of Section 303. The FCC lacks authority to issue the rule in the first instance. Being prophetic does not supply substitute authorization.

Similarly, the Commission needs Section 303's rulemaking authority (which it does not have) in order to issue a rule modifying licenses under Section 316. Section 316 does not supply substitute rulemaking authority.

3. The Order Violates Section 5206(f) of the ITS Act of 1998

In addition to Section 303, discussed above, the Order also exceeds the statutory limitation of Section 5206(f). Section 5206(f) of Transportation Equity Act for the 21st Century

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[62] *Id. See also Gonzalez v. Oregon,* 546 U.S. 243 (2006); *Brown & Williamson, supra* n28; *MCI Telecomm. Corp. v. AT&T Co.,* 512 U.S. 218 (1994).
[63] *Brown & Williamson, supra* n35.
[64] Order para. 120 quoting *Teledesic v. FCC*, 275 F.3d 75, 85 (D.C. Cir. 2001).

(TEA-21) is found in Subtitle C of TEA-21. Subtitle C may be cited as the Intelligent Transportation Systems Act of 1998 (hereinafter, the "ITS Act of 1998").[65]

Section 5206(f) was not codified, but also, apparently not repealed. Because it was not repealed, Section 5206(f) remains in force. Section 5206(f) is ambiguous and subject to various interpretations. Moreover, it appears that Section 5206(f) has never been construed by a court. This is a question of first impression of an ambiguous statutory provision.

Section 5206(f) provides as follows:

> The Federal Communications Commission shall consider, in consultation with the Secretary, the spectrum needs for the operation of intelligent transportation systems, including spectrum for the dedicated short-range vehicle-to-wayside wireless standard. Not later than January 1, 2000, the Federal Communications Commission shall have completed a rulemaking considering the allocation of spectrum for intelligent transportation systems.[66]

a. FCC interpretation of Section 5206(f)

The Order says that TEA-21 "directed the Commission to complete a rulemaking on ITS spectrum by January 1, 2000, which it did. That was all that Congress required for the Commission to achieve its statutory duties."[67] According to the Order, this is a one-time requirement that, once fulfilled, frees the FCC to curtail or rescind the ITS spectrum allocation. It is as though Congress sent the FCC on an errand and, having completed the errand, the Commission may forget the errand and go about its business. This is certainly a possible interpretation of Section 5206(f). However, it is not the only interpretation, nor is it the best.

The Order's interpretation could lead to absurd results. For example, the Commission could have completed the spectrum allocation on December 27, 1999, and then rescinded the

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[65] Transportation Equity Act for the 21st Century § 5206(f), 112 Stat. 107, 457 (1998) (TEA 21). Section 5201 of TEA 21 provides that Subtitle C of TEA 21 may be cited as the Intelligent Transportation Systems Act of 1998 (hereinafter, the "ITS Act of 1998").
[66] *Id.*
[67] Order para. 119.

allocation a few days later, on January 3, 2000, and it would have satisfied the Commission's reading of the statute. Similarly, the FCC could rescind the ITS spectrum allocation entirely.

These absurd scenarios highlight what is missing from the FCC's analysis, namely, the context and purpose of the ITS Act of 1998. Congress did not instruct the FCC in a vacuum. The FCC's action from Section 5206(f) is instrumental to a Congressionally-mandated program. It is well established that the words of a statute should be read in the context of the overall statutory scheme.[68] Each statutory provision should be read by reference to "the whole law and its object and policy."[69] Consistent with these instructions from the U.S. Supreme Court, the following reviews the statutory scheme of the ITS Act of 1998.

b. Statutory scheme of the ITS Act of 1998

Section 5206(f) appears at the end of Section 5206. Section 5206, titled National Architecture and Standards, requires the Secretary to develop, implement and maintain a national architecture and supporting standards and protocols.[70] The statutory scheme is that the spectrum allocation in Section 5206(f) is the medium that carries the messages of the ITS architecture of Section 5206. The architecture, that Congress told DOT to establish, contemplates ITS messaging.[71] Every message or signal needs a medium over which it is transmitted. Spectrum is the medium for ITS. Without spectrum, no ITS messages could be transmitted. Spectrum is the

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[68] *King v. Burwell*, 135 S.Ct. 2480, 2489 (2015); *Brown & Williamson*, *supra* n28, 529 U.S. at 133 (an agency should recognize "the fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.").

[69] *John Hancock Mut. Life Inc. Co. v. Harris Trust & Sav. Bank*, 510 U.S. 86, 94-95 (1993) (examine the language of a statute "guided not by a single sentence or member of a sentence but looking to the provisions of the whole law and its object and policy" (quotation marks and citations omitted)). *See also Pavelic & Leflore v. Marvel Entertainment Group,* 493 U.S. 120, 123-24 (1989); *Massachusetts v. Morash*, 490 U.S. 107, 114-15 (1989).

[70] TEA 21 § 5206(a) codified at 23 U.S.C. § 517(a)(1).

[71] The statutory purpose of Section 5206, including the ITS communication system, is reviewed in greater detail at Comments of AREDN 16-24.

sine qua non of the ITS Act of 1998. Indeed, the Commission has acknowledged that, "DSRC provides the critical communications link for intelligent transportation systems."[72]

c. Statutory scheme continues with codification and subsequent statutes

All of the requirements for the Secretary, from the ITS Act of 1998, were codified at 23 U.S.C. §§ 512-517. The Secretary is still required to develop, maintain and enforce the ITS Program Plan and the architecture, standards and protocol, including that the Secretary "shall conduct an *ongoing* intelligent transportation system program."[73] Because it imposes identical duties, the statutory scheme of 23 U.S.C. §§ 512-519 relies on continued spectrum allocation. As with the ITS Act of 1998, the spectrum has to be in place for much of 23 U.S.C. §§ 512-519 to work. Continued spectrum allocation is also expected by later enacted transportation statutes.[74] Codification and subsequent statutes help to clarify the meaning of Section 5206(f).[75]

d. The Order is contrary to the statutory scheme

The Order contradicts the statutory scheme of 23 U.S.C. §§ 512-519, by drastically reducing the overall ITS spectrum allocation, making the remaining spectrum allocation largely unusable by ITS due to excessive out-of-band emissions from unlicensed devices,[76] and specifying cellular vehicle to everything (C-V2X) as the only permissible technology. FCC rules require abrogation of regional architectures and make it impossible for the Secretary to discharge statutory duties. All of this is contrary to the statutory scheme of the ITS Act of 1998.

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[72] Report and Order at para. 2, *supra* n45 (citing speech of Jeffrey N. Shane, Under Secretary for Transportation, DOT).
[73] 23 U.S.C. § 515(a) (emphasis added).
[74] *Supra* n33.
[75] *West Virginia Univ. Hosps. v. Casey*, 499 U.S. 83, 100-01 (1991) (ambiguous statutory term to be construed in the way that fits most comfortably and logically with previously and subsequently enacted legislation).
[76] Letter from Steven Bradbury, *supra* n47, at 3-5 (referencing CAMP data showing that out-of-band emissions from unlicensed devices "will cause significant interference, potentially making V2X technologies unsafe for safety-of-life communications").

e. Section 5206(f) precludes subsequent FCC action

The Order's interpretation (quoted above) relies on a single sentence in isolation, ignoring the overall statutory purpose of the ITS Act of 1998 and its codification. That is not the proper way to construe a statute. Interpretation should be "guided not by a single sentence or member of a sentence but looking to the provisions of the whole law and its object and policy."[77] Therefore, the statutory scheme of a spectrum allocation supporting the *ongoing* ITS Program must be accounted for in interpreting Section 5206(f). The phrase "shall have completed a rulemaking" means that the FCC may not re-open or undo the rulemaking. It was to have been completed by January 1, 2000, in order to sustain the *ongoing* ITS Program. This is the better interpretation of Section 5206(f).

Federal statutes should not be interpreted to "negate their own stated purposes."[78] The Order's interpretation negates the purpose of the ITS Act of 1998; it is the weaker interpretation.

f. Ambiguous word gives Section 5206(f) more than one possible meaning

Moreover, Section 5206(f) can have more than one meaning. The word "a" in "shall have completed *a* rulemaking" is an indefinite article. "The indefinite article is used to refer to something for the first time or to a particular member of a group or class."[79] The dictionary definition of the word "a" tracks the above two meanings:

> 3a – used as a function word before a singular noun followed by a restrictive modifier // *a* man who was here yesterday
> b: ANY // *a* person who is sick can't work.[80]

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[77] *Supra* n69. *See also supra* n68.
[78] *King v. Burwell*, 576 U.S. 988, 135 S.Ct. 2480, 2493 (2015) (quoting *New York State Dept. Social Servs. v. Dublino*, 413 U.S. 419-20 (1973) ("[w]e cannot interpret federal statutes to negate their own stated purposes").
[79] Resources for Leaning English, Indefinite Articles, https://www.ef.com/wwen/english-resources/english-grammar/indefinite-articles/ (last viewed Apr. 25, 2021).
[80] Miriam-Webster Dictionary, https://www.merriam-webster.com/dictionary/a (last viewed Apr. 25, 2021).

The word "a" has at least two meanings. One refers to a specific item (*e.g.*, a particular man who was here yesterday), while the other refers to a member of a class (*e.g.*, any person who is sick cannot work). Either could fit Section 5206(f). Under the first, the FCC was to complete a particular rulemaking by January 1, 2000. This is the Order's interpretation. Under the second, not later than January 1, 2000, the FCC shall have completed *any* rulemaking considering ITS spectrum allocation. The second interpretation fits the statutory scheme of 23 U.S.C. §§ 512-519, which relies on ongoing spectrum allocation. Section 5206(f) sets a deadline of January 1, 2000, for the FCC to have completed *any* rulemaking considering ITS spectrum allocation. The Order violates this requirement.

4. The Order is Arbitrary and Capricious – Does Not Consider Important Aspect

The Order violates the Administrative Procedure Act for the reasons set forth above. It is exceeds statutory limitation.[81] Moreover, the Order is arbitrary and capricious because it "fail[s] to consider an important aspect of the problem."[82] The Order does not address AREDN's showings[83] that the 5.9 GHz Band is not needed for Wi-Fi.

a. Inflated gigabit Wi-Fi assumption

Industry studies cited by the Order (at n30) assume that every household in America should have gigabit Wi-Fi (1 Gbps or 1000 Mbps per second).[84] That is an inflated assumption. It is like a crazy zoning ordinance requiring that every house shall have a ten-car garage –

[81] 5 U.S.C. § 706(2)(A) and (C).
[82] *Motor Veh. Mfrs. Ass'n v. State Farm Ins.*, 463 U.S. 29, 43 (1983); *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971) (agency must consider all relevant factors).
[83] Comments of AREDN 1-15, Reply Comments of AREDN 1-9.
[84] Comments of AREDN 11 (citing Steve Methley & William Webb, Quotient Assocs. Ltd., *Wi-Fi Spectrum Needs Study* (Feb 2017) (the "Spectrum Needs Study") 7, and Rolf de Vegt, *et al.*, Qualcomm Techs. Inc., *A Quantification of 5 GHz Band Unlicensed Spectrum Needs* (2017) (the "Qualcomm Study") 12-13).

mandatory surplus capacity that for the most part will not be used. The surplus capacity assumption provides a false rationale to reallocate the 5.9 GHz Band because it drives inflated spectrum needs projections. The Commission found, in the Broadband Deployment Report, that 25 Mbps (1/40 of gigabit speed) is sufficient to deliver Advanced Telecommunications.[85] The Commission also noted that "in the areas where gigabit service is available, only 4% of Americans living in those areas are in fact subscribing to it."[86] Jay Lenno may need a ten-car garage, but most of the rest of us do not.

A Wall Street Journal (WSJ) study similarly recorded average use of 6-8 Mbps with occasional brief spikes to higher levels.[87] WSJ testers ran up to seven devices simultaneously in a residence and streamed Netflix and other streaming services on each device. This was intended to replicate extreme household use. The WSJ's conclusion is that faster Internet is not worth it for most households. Many are not going to see huge differences between 50 Mbps, 100 Mbps and a gigabit per second.[88] The empirical data from the WSJ study is consistent with the Commission's Broadband Deployment Report and contradicts the 5.9 GHz Band reallocation.

It is understood that unlicensed spectrum allocation is somewhat aspirational and considers need for 5G services. Nevertheless, the gulf between actual and allocated (6-8/25 Mbps vs. 1000 Mbps) is so great that the large gap is unrealistic. AREDN proposed a more

[85] *See* Reply Comments of AREDN 8 (citing *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2020 Broadband Deployment Report, para. 13-14, GN Docket No. 19-285 (Apr. 24, 2020)).
[86] *Id.* at para. 25.
[87] See Comments of AREDN 11-14 (citing S. Ramachandran, *et al.*, *The Truth About Faster Internet: It's Not Worth It*, Wall Street Journal, Aug. 20, 2019, https://www.wsj.com/graphics/faster-internet-not-worth-it/ (last viewed Apr. 25, 2021)).
[88] *Id.*

realistic assumption of 500 Mbps per user.[89] This would cut the projected spectrum need in half,[90] thereby eliminating any claimed need to re-allocate the 5.9 GHz Band. Spectrum needs projections for the entire nation should be more realistically calibrated; better to have universal service at 100 – 500 Mbps.

In summary, the Order does not explain the gigabit Wi-Fi assumption, or consider AREDN's proposal to assume 500 Mbps.[91]

Finally, the Qualcomm Study found that if a different Wi-Fi configuration were used in the residence, the projected need for new unlicensed spectrum would be cut to *zero*.[92] Use of a more spectrum-efficient method to deliver Wi-Fi in the residence would drastically reduce the need for unlicensed spectrum. The Wi-Fi industry is using the same configuration in the residence that it used 50 years ago, when Wi-Fi started with ALOHAnet (star network topology).[93] The FCC has not considered the possibility of more efficient delivery of Wi-Fi.

In conclusion, the Order is arbitrary and capricious because it fails to consider an important aspect of the problem – that the 5.9 GHz Band is not needed for Wi-Fi.[94]

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[89] Comments of AREDN iv, 14-15.
[90] Comments of AREDN 14-15 (citing Qualcomm Study 12), Reply Comments of AREDN 8.
[91] Augmented reality (AR) and virtual reality (VR) should not be included in mid-band spectrum calculations. Immersive VR uses up to 5 GHz, and retina AR uses multi-gigabit capacity. These requirements exceed the capability of gigabit Wi-Fi. The 60 GHz Band (57-71 GHz) is the appropriate band for AR and VR because it has the capacity to support outsized data flows. Comments of AREDN 14, n38.
[92] *See* Comments of AREDN 7-11 (citing Qualcomm Study 1-5)
[93] Comments of AREDN 8.
[94] *Supra* n82.

III. CONCLUSION

For these reasons, AREDN respectfully requests that the Commission reconsider and withdraw the Order, and terminate this proceeding.

Respectfully submitted,

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